

ABSTRACT

Methods and apparatus are disclosed for an adaptive rate control mechanism reactive to flow control messages in a packet switching system and other communications and computer systems. Typically, a multiplicative increase and exponential decrease technique is used to throttle traffic. Backpressure feedback is used to calculate the initial rate at which to allow traffic after backpressure is deasserted. This reduces the probability of underrun of buffers (e.g., too little traffic being carried). The adjustment to the initial rate is made by measuring the time between the XON and XOFF in factor periods. Then a target XON time is subtracted. If the result is positive (i.e., the measured XON time was too long), the rate is multiplicatively increased (e.g., by a factor of two to the difference). If the result is negative (i.e., the measured XON time was too short), the rate is exponentially decreased (e.g., by the square root).